

To: Hooper, Charles A.[Hooper.CharlesA@epa.gov]
Cc: Washburn, Ben[washburn.ben@epa.gov]; Gravatt, Dan[Gravatt.Dan@epa.gov]; 'Kirby Webster'[kwebster@skeo.com]
From: Terrie Boguski
Sent: Tue 10/14/2014 2:35:32 PM
Subject: RE: questions regarding pCi/g in soil and mrem

....

Thanks, Chuck. Do you know of any way to provide the information the CAG is requesting - the estimated dose in mrem for the PRGs in the PRG calculator?

Terrie

Terrie Boguski

Senior Technical Analyst

Skeo Solutions

913-780-3328 (office)

913-568-7550 (cell)

www.skeo.com

tboguski@skeo.com

tboguski@sbcglobal.net

From: Hooper, Charles A. [mailto:Hooper.CharlesA@epa.gov]
Sent: Tuesday, October 14, 2014 9:09 AM
To: tboguski@sbcglobal.net
Cc: Washburn, Ben; Gravatt, Dan
Subject: RE: questions regarding pCi/g in soil and mrem

According to headquarters the PRG calculator has already been updated with the new slope factors, but it's undergoing a final check. When that's complete the banner will be removed and the tables will be uploaded. However, they did advise that the two calculators (PRG and DCC) use slope factors and dose conversion factors from different publications, for that reason and because Superfund is a risk based standard they advise against comparing risk and dose.

<http://www.epa.gov/superfund/health/contaminants/radiation/prg.htm>

Chuck Hooper, CHP

Radiation Safety Officer

EPA Region 7

11201 Renner Boulevard

Lenexa, Kansas 66219

(913) 551-7271 office

Hooper.CharlesA@epa.gov

From: Terrie Boguski [<mailto:tboguski@sbcglobal.net>]

Sent: Thursday, October 09, 2014 9:15 PM

To: Hooper, Charles A.

Cc: Washburn, Ben; 'Kirby Webster'

Subject: questions regarding pCi/g in soil and mrem

Hi Chuck,

Ben said that I could contact you directly with questions about radionuclides. I have some questions that I am trying to answer for the West Lake Landfill CAG.

The CAG asked me how to convert the EPA PRG values given in pCi/g to doses of mrem. If I use EPA's DCC calculator to calculate DCCs for a dose of 1 mrem for residential soil, can I use the DCC value to calculate the dose in mrem for residential PRGs obtained from the EPA PRG calculator. For example, the resident DCC for thorium-230 is 26.2 for a 1 mrem dose. Does this mean that a PRG of 346 pCi/g in residential soil is a dose of about 7.7 mrem? Also EPA's June 2014 memo says that an annual dose of 12 mrem results in an excess cancer risk of 3E-4. Does this mean that an annual dose of 7.7 mrem is a lifetime cancer risk of about 1.93E-4?

Also, the PRG calculator is being updated now. Do you have any information about when the update will be completed and if the PRGs are expected to be very different from the PRGs that we calculated in August?

Thanks for any information you can share.

Terrie

Terrie Boguski

Senior Technical Analyst

Skeo Solutions

913-780-3328 (office)

913-568-7550 (cell)

www.skeo.com

tboguski@skeo.com

tboguski@sbcglobal.net